

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for detecting the differentiation status of stem cells comprising detecting the expression of 5T4 antigen in said stem cells, wherein 5T4 the level of expression indicates differentiated cells ~~reflects the differentiation status of said cells.~~

2. (Currently amended) A method as claimed in claim 1 wherein the absence a low or negligible level of 5T4 antigen expression indicates undifferentiated or ~~pluripotent~~ stem cells.

3. (Original) A method as claimed in claim 2 wherein said stem cells are mammalian stem cells.

4. (Original) A method as claimed in claim 3 wherein said stem cells are embryonic stem cells.

5. (Previously presented) A method as claimed in claim 2 wherein said stem cells are murine, human, primate porcine, feline, bovine, ovine or canine.

6. (Previously presented) A method of claim 2 wherein said 5T4 expression is detected by anti-5T4 antibodies.

7. (Canceled)

8. (Original) A method of detecting differentiation status of a population of mammalian stem cells comprising the steps of:

a) taking a sample of cells from said population of mammalian stem cells;

b) incubating said sample with a labelled anti-5T4 antibody such that specific binding of anti-5T4 antibody to 5T4 antigen occurs; and

c) detecting said binding of said antibody wherein binding of the anti-5T4 antibody to cells in the sample is indicative of the presence of 5T4 and differentiated stem cells.

9. (Currently amended) A method for separating a population of undifferentiated or differentiated mammalian stem cells from a mixture of differentiated and undifferentiated stem cells comprising:

a) binding cells, in a mixture of differentiated and undifferentiated stem cells, with anti-5T4 antibody, wherein 5T4 expression indicates differentiated cells;

b) separating cells with bound antibody from cells with no bound antibody;
and

c) isolating the cells.

10. (Previously presented) A method as claimed in claim 9 wherein said isolated cells are viable.

11-13. (Canceled)

14. (Currently amended) A method of detecting differentiated mammalian cells, said method comprising use of an antibody recognizing 5T4 to detect 5T4 expression, wherein 5T4 expression indicates differentiated cells ~~which reflects the differentiation status of said cells.~~

15-20. (Canceled)